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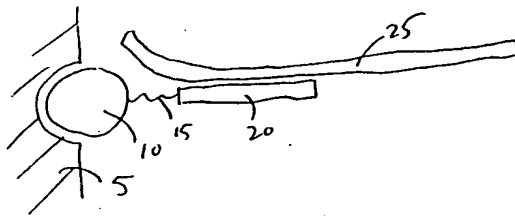
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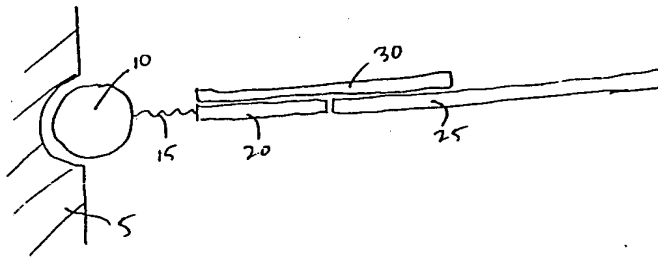
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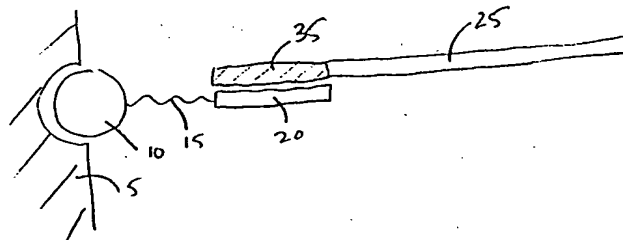
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A



B



C

Fig 1

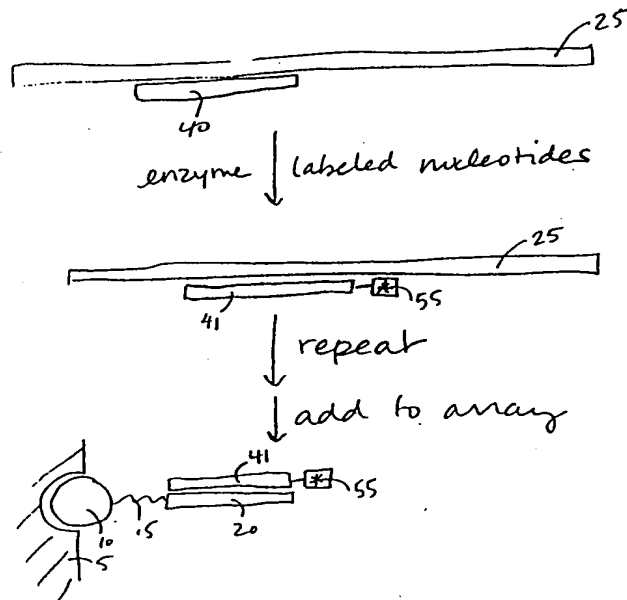


Fig 2A

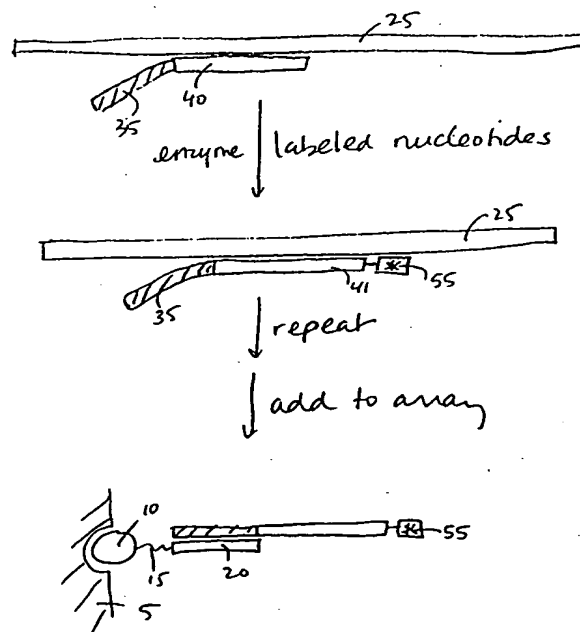


Fig 2B

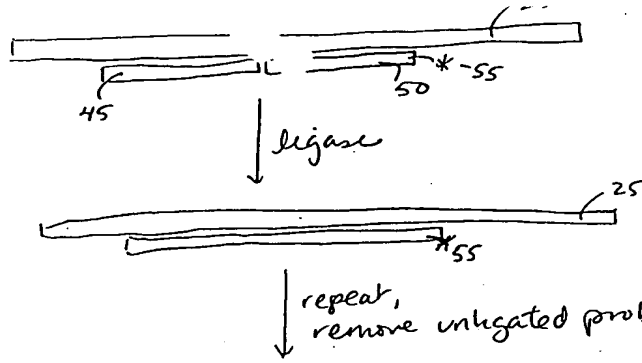


Fig 3A

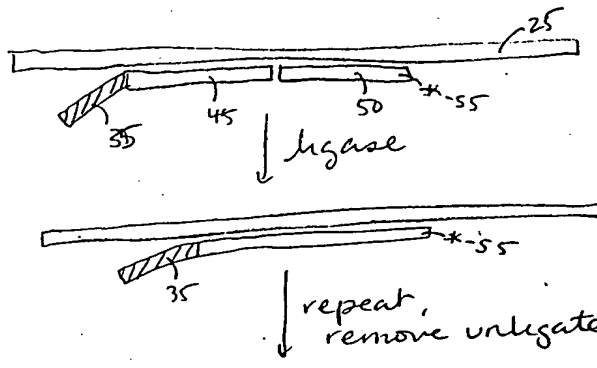
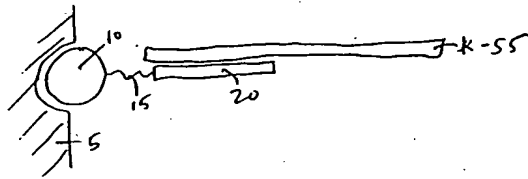
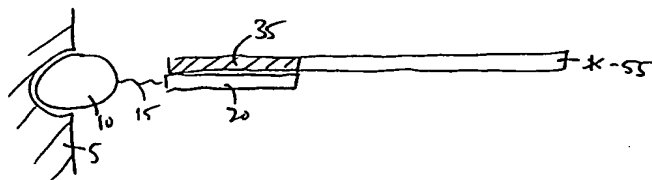


Fig 3B



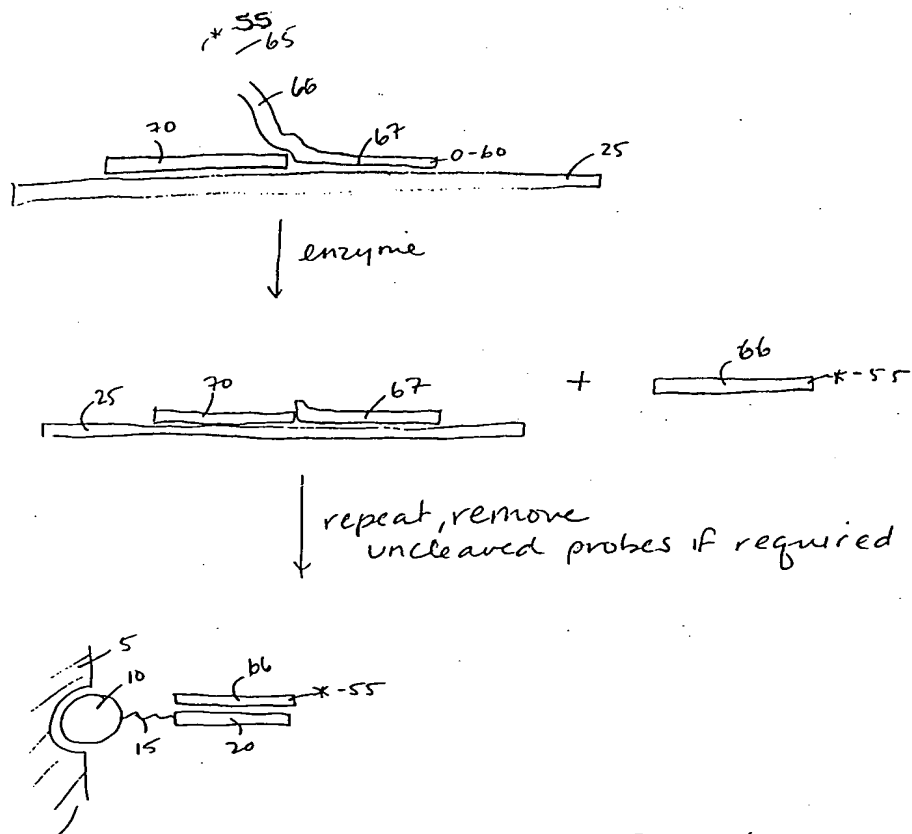


Fig 4

FIG 5A

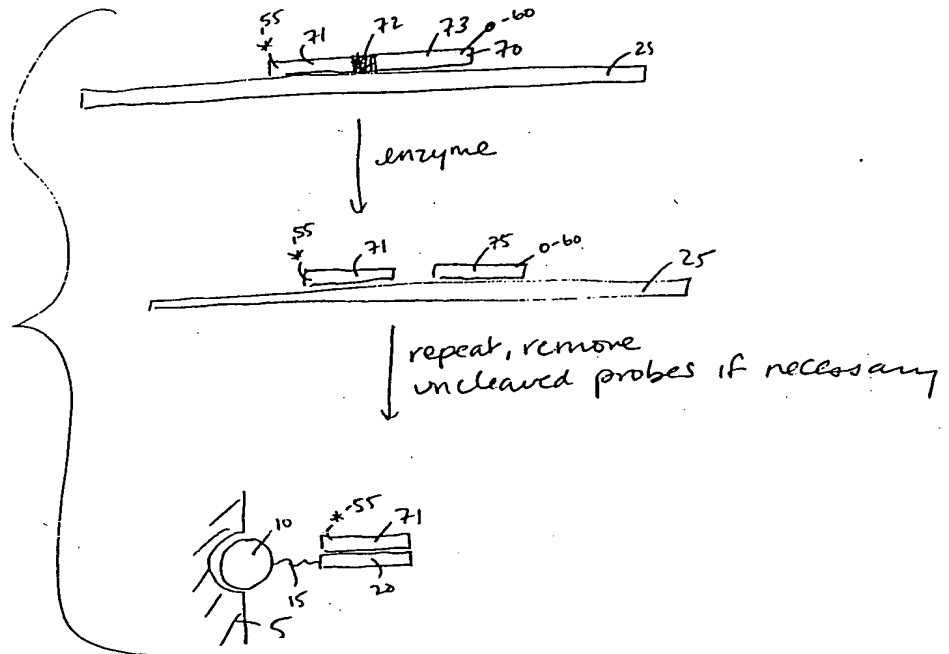
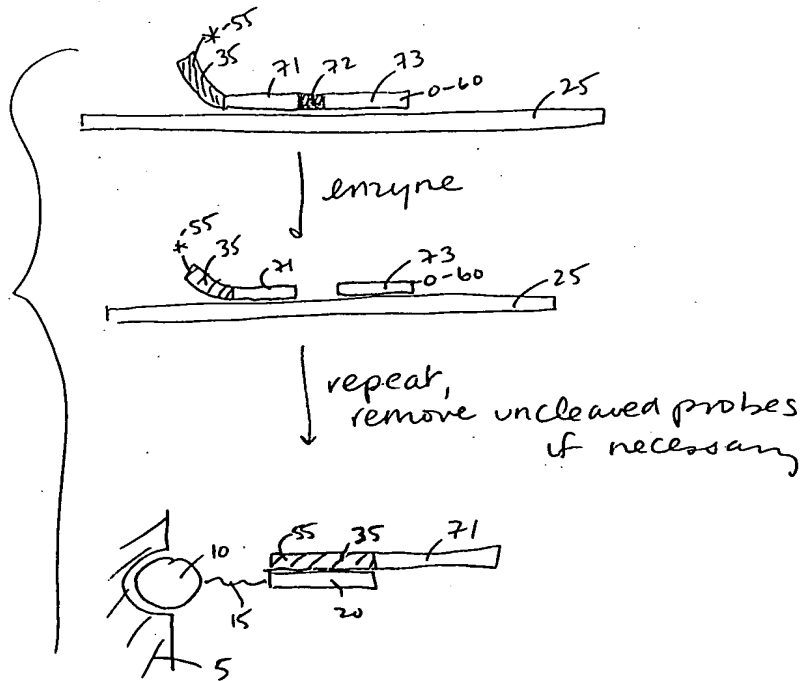


Fig 5B



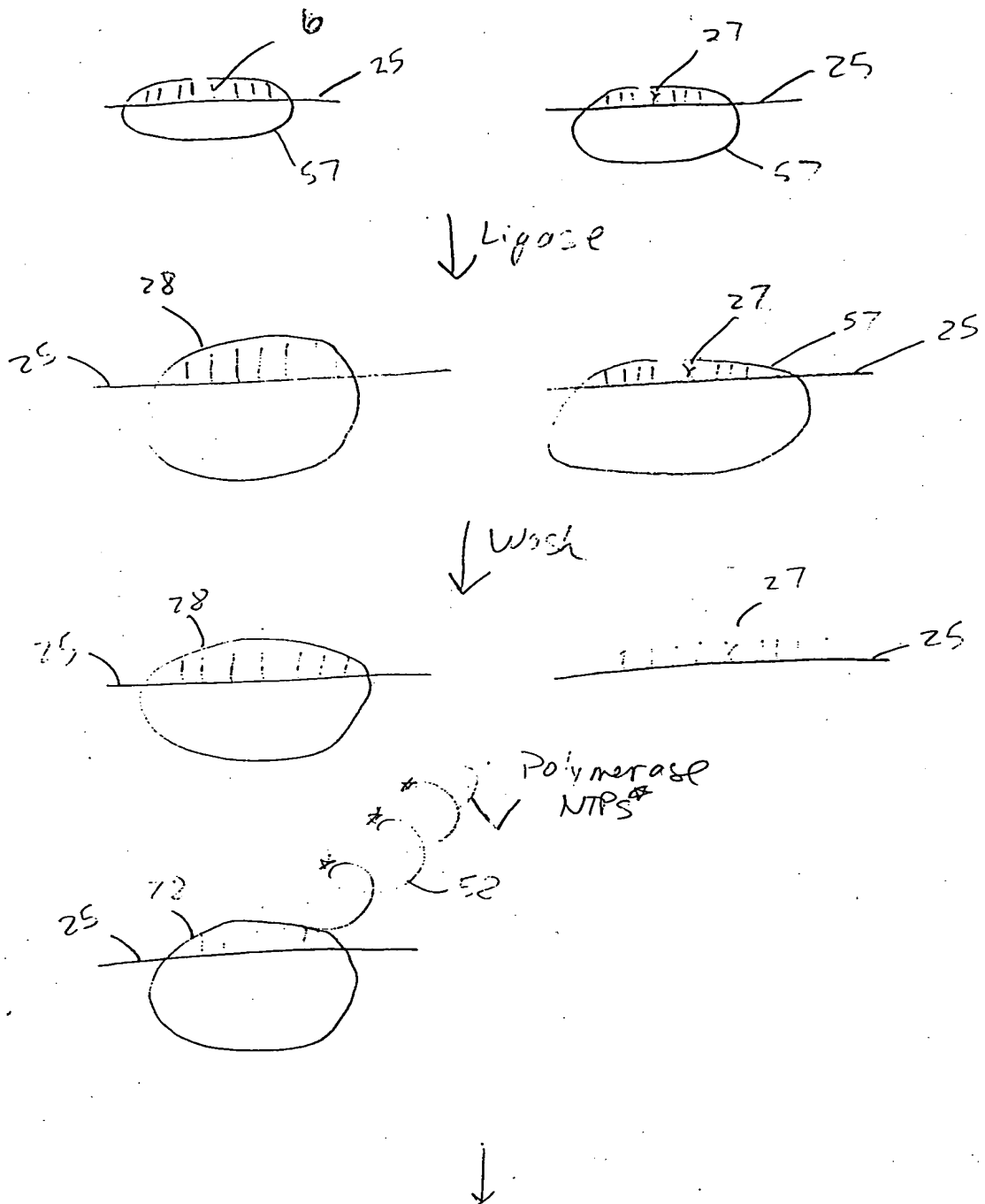
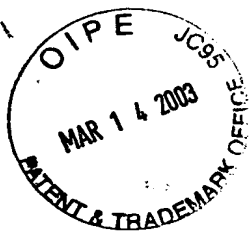


FIGURE 6



↓ Restriction
Endonuclease

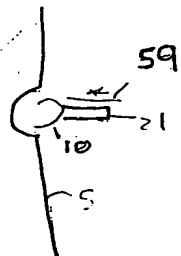
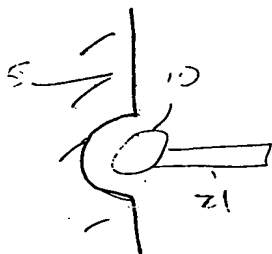
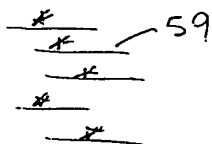
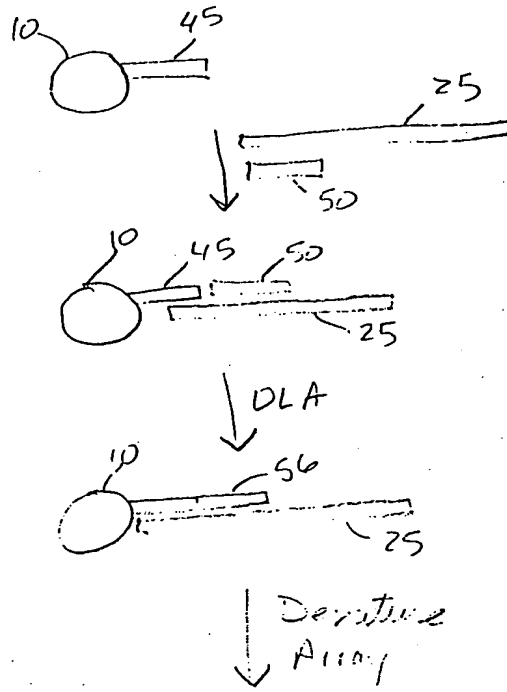


FIGURE 6
Continued



A

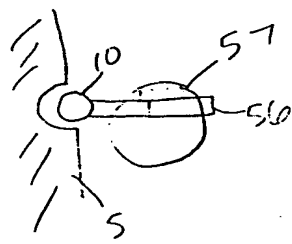
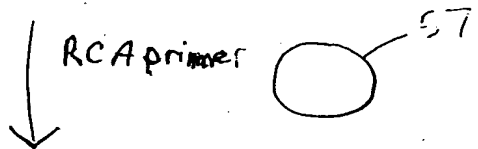
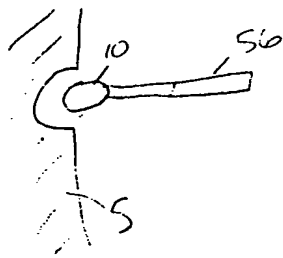


FIGURE 7

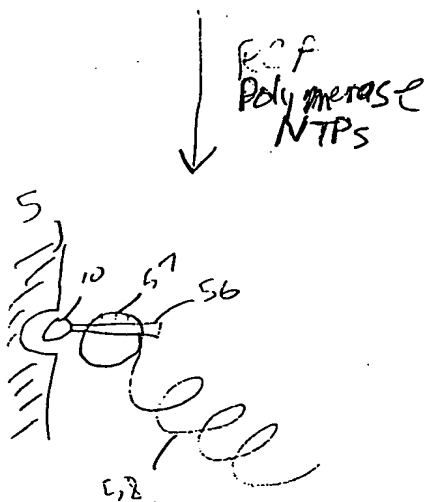


FIGURE 7
(continued)

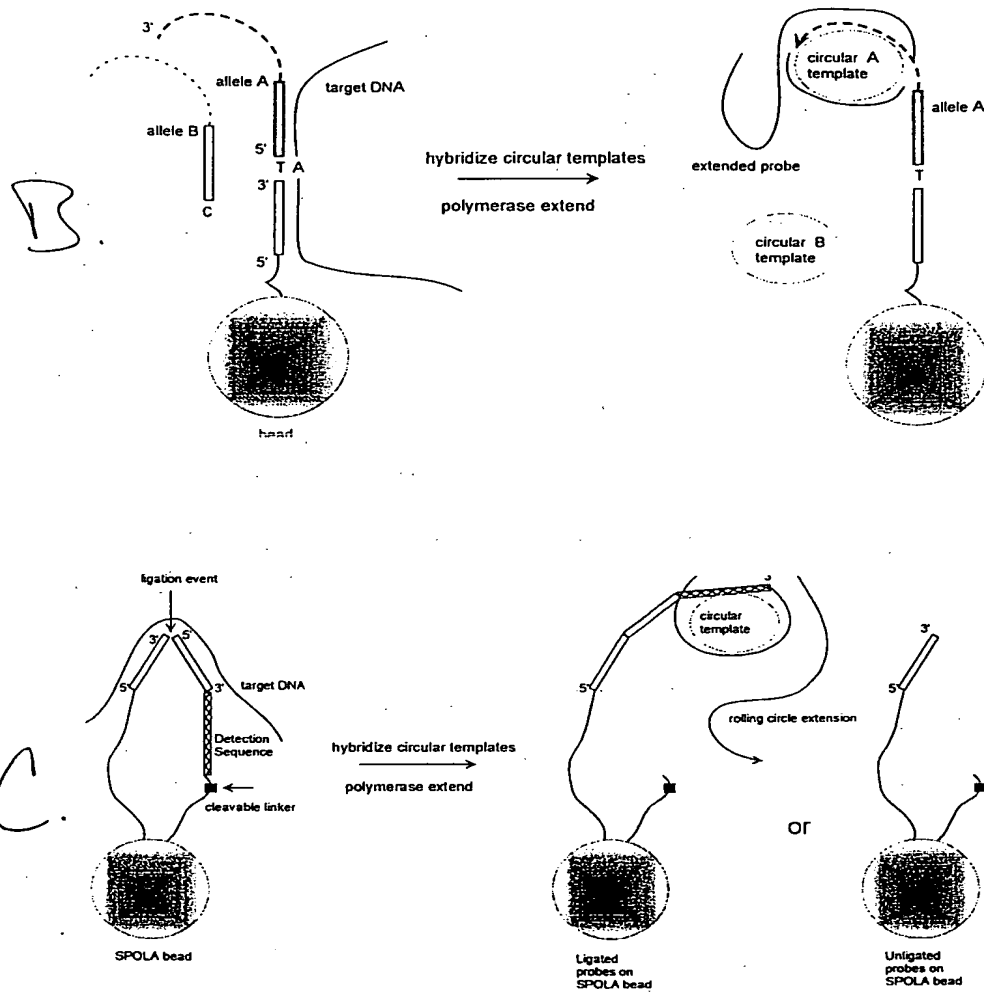
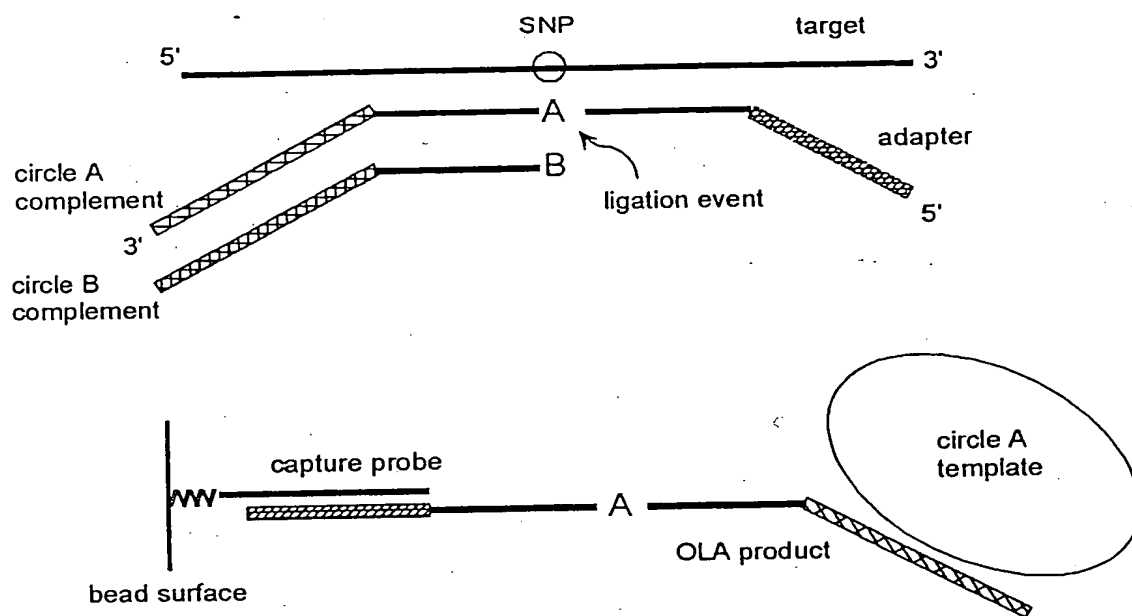
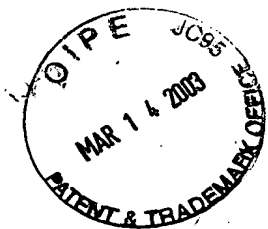
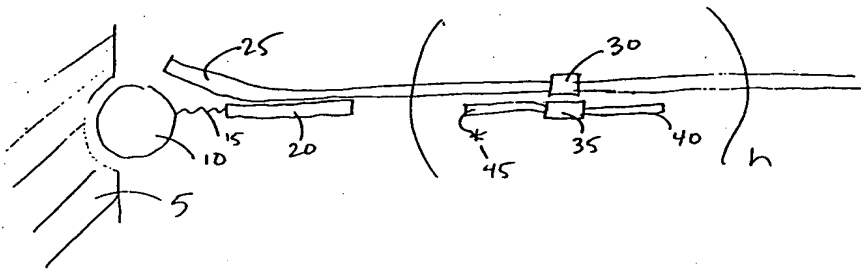


Figure 7 continued

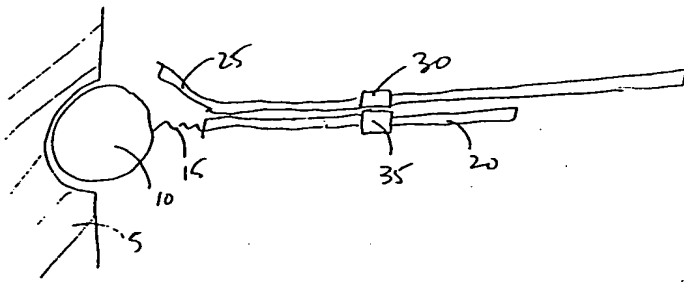


D

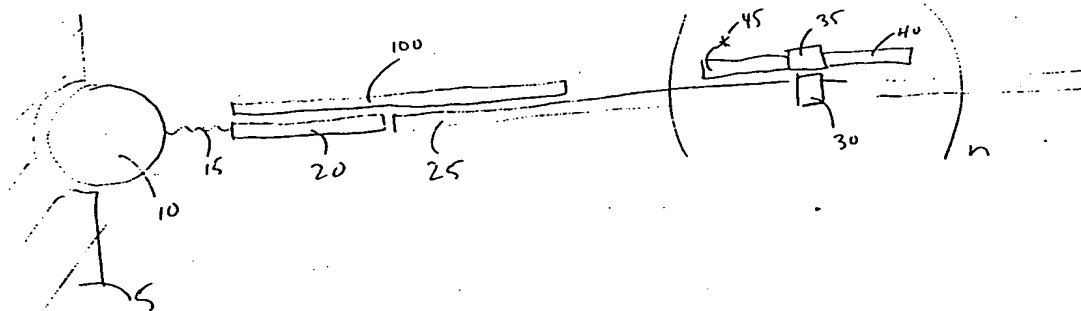
Figure 7 continued



A



B



C

FIGURE 8

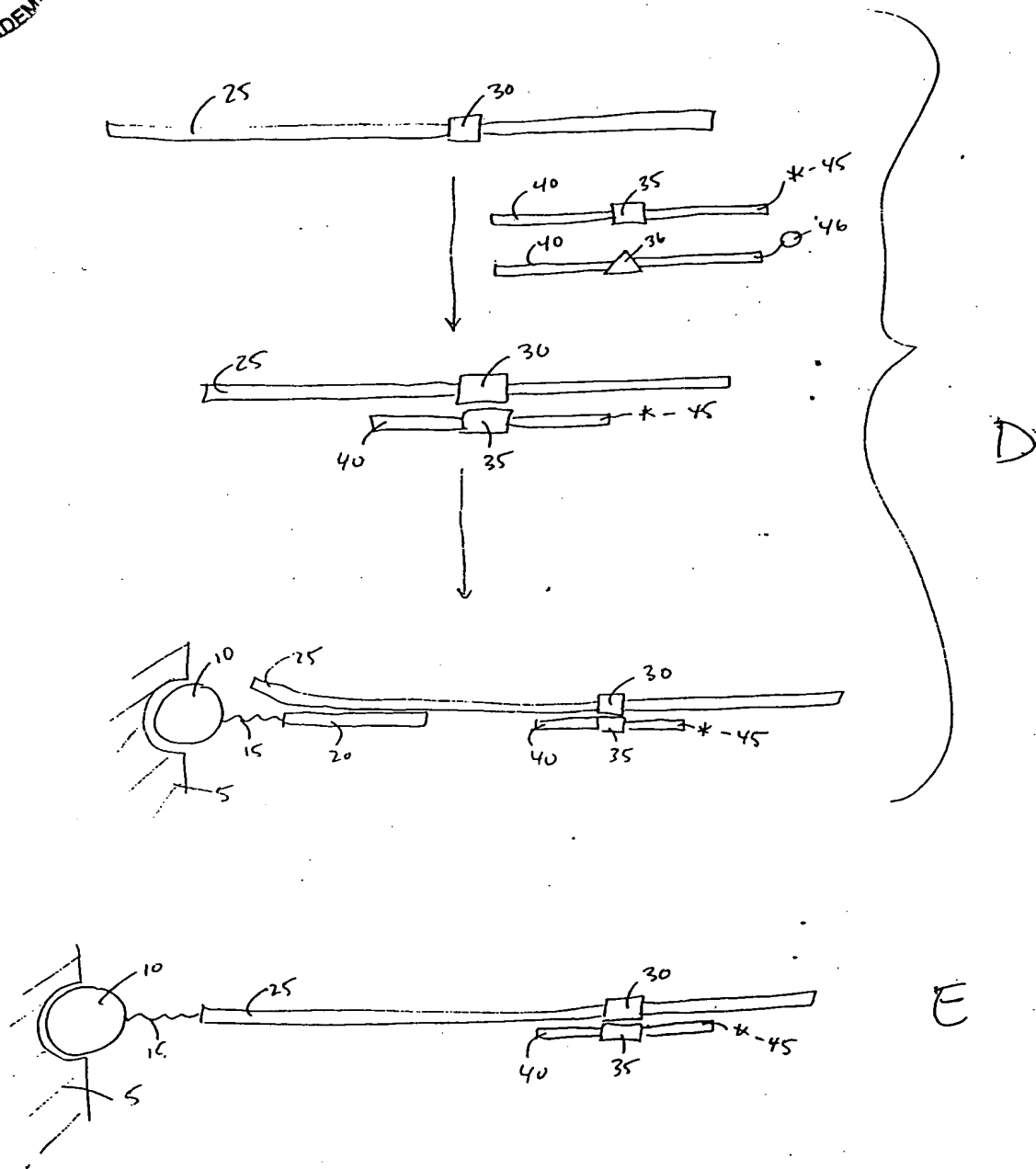
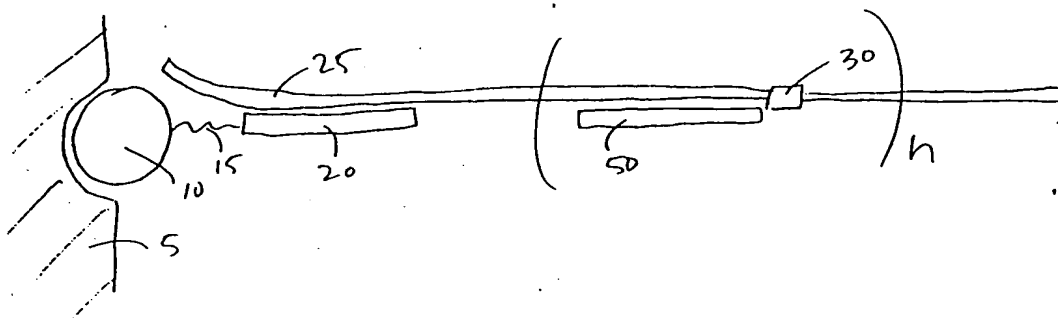
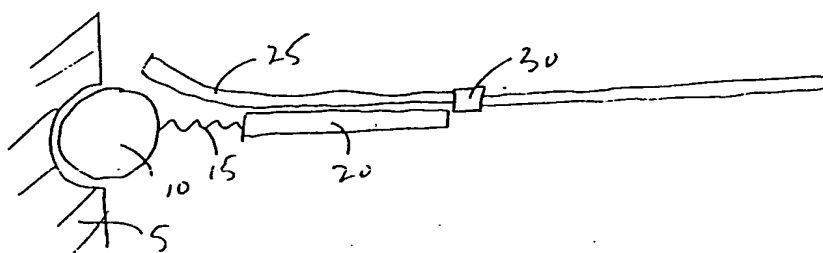


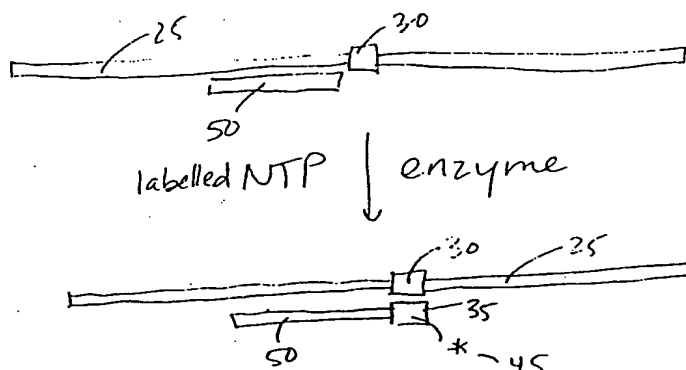
FIGURE 8
(continued)



A



B



C

optional
 removal of
 unextended
 primers

labelled NTP
 ↓ enzyme

denature,
 add to array

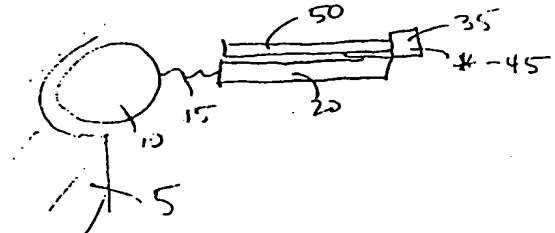


FIGURE 9.

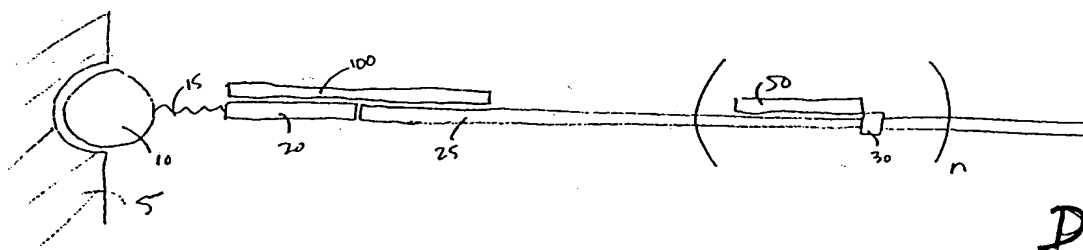
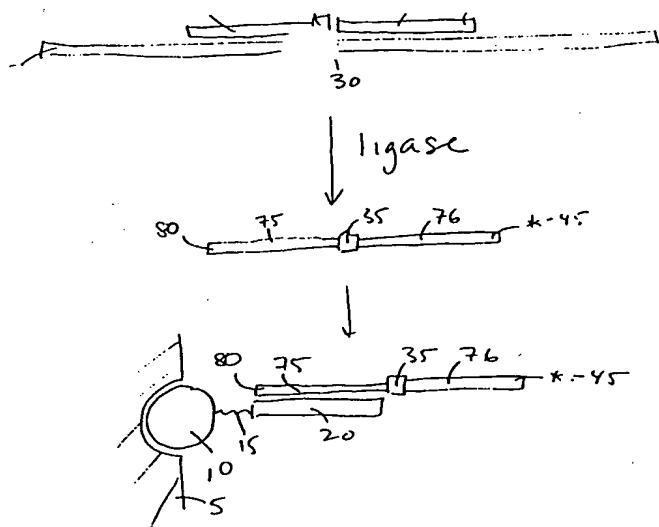
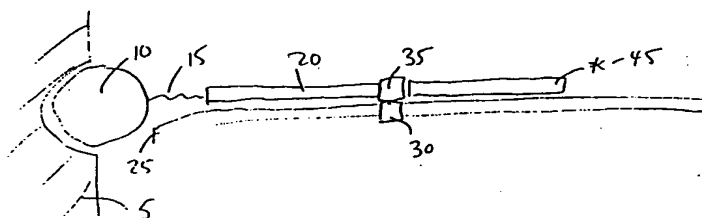


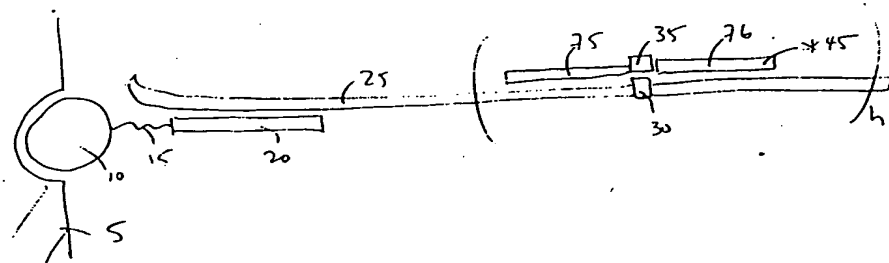
FIGURE 9
(continued)



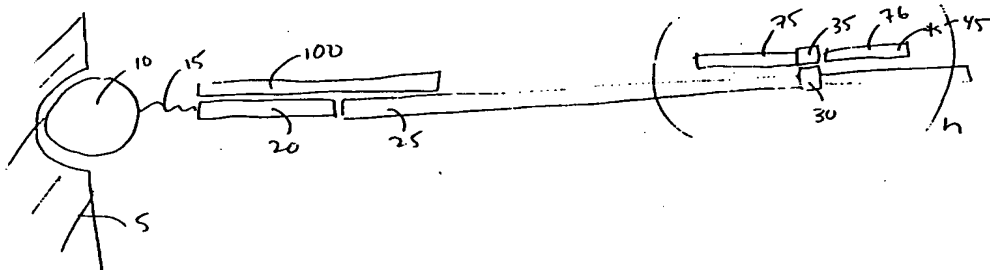
A



B



C

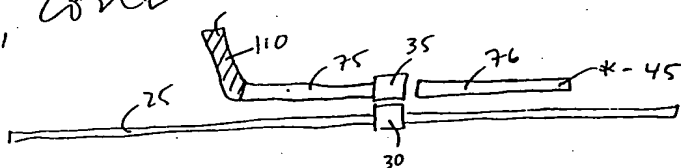


D

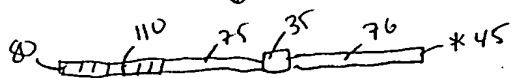
FIGURE 10.



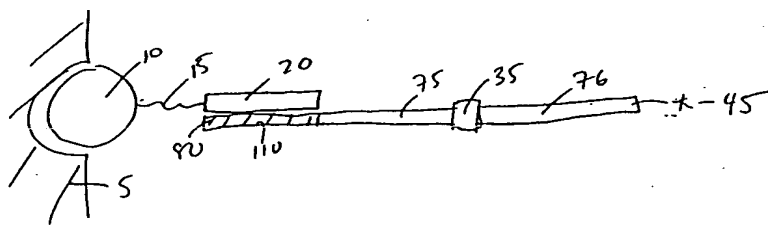
cont



ligate



to array



E

FIGURE 10
(continued)

SPDLA Hsray

SPDLA Hsray

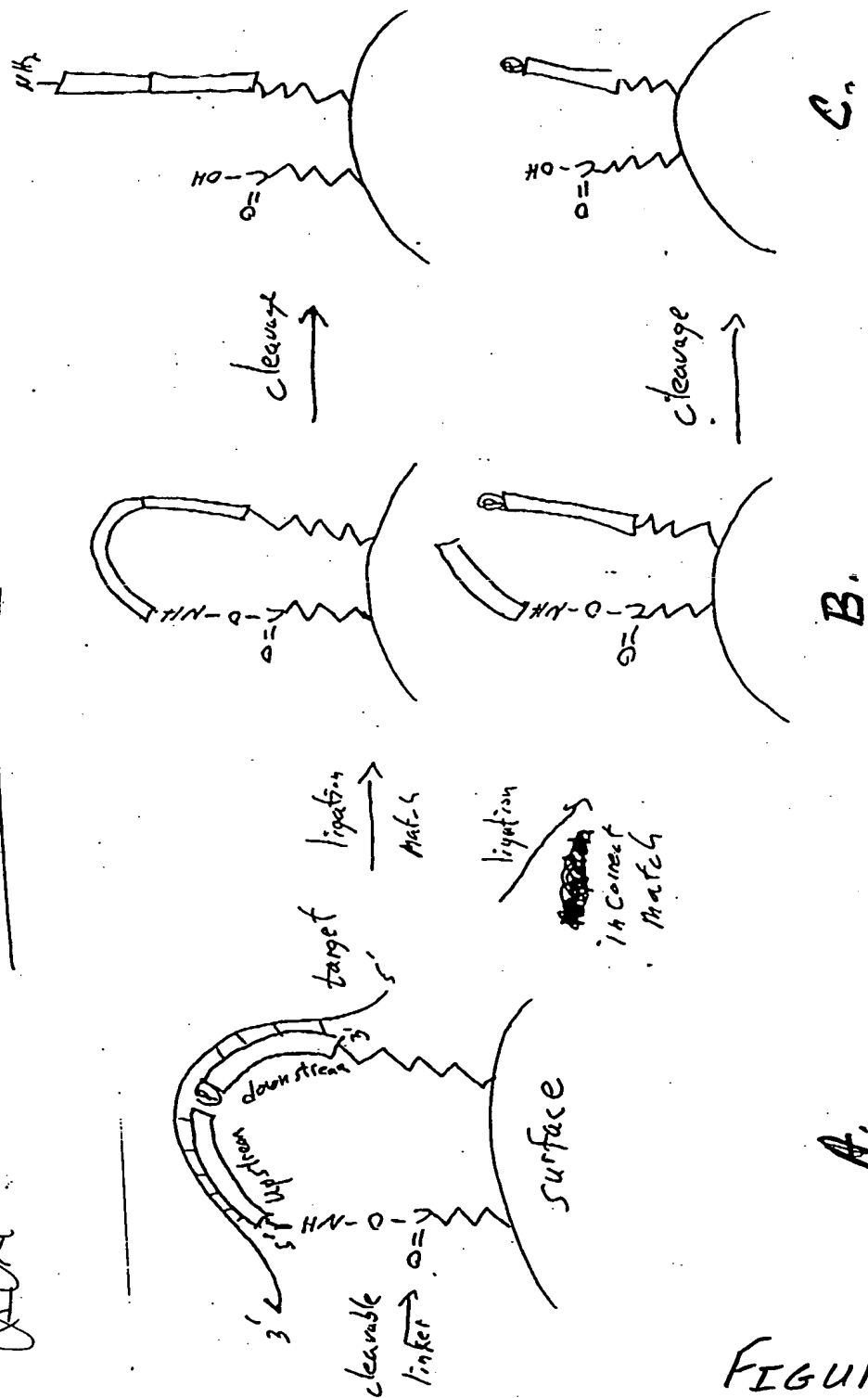


FIGURE 11

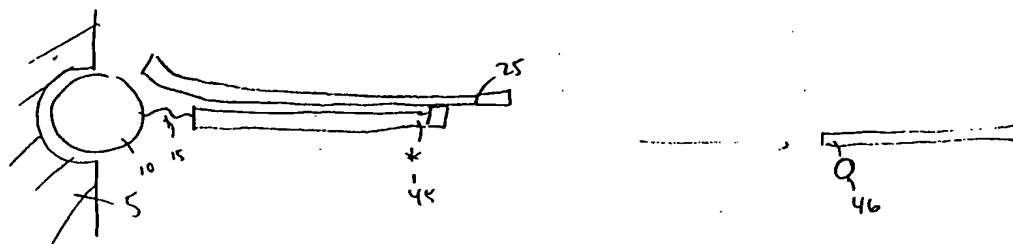
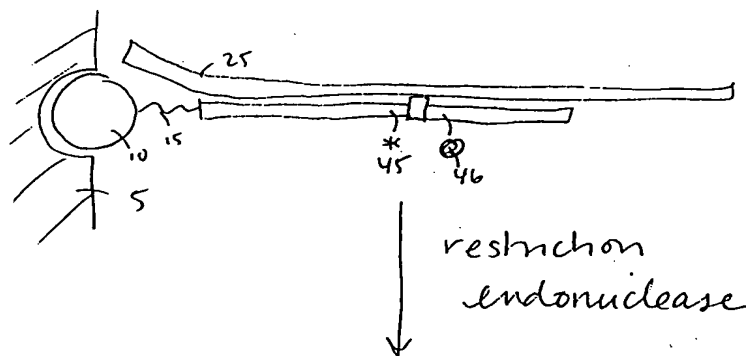
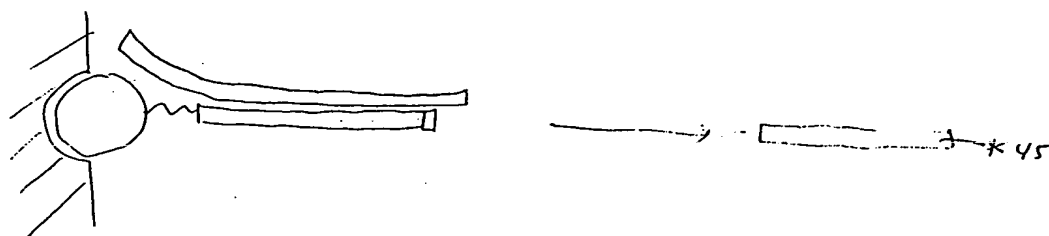
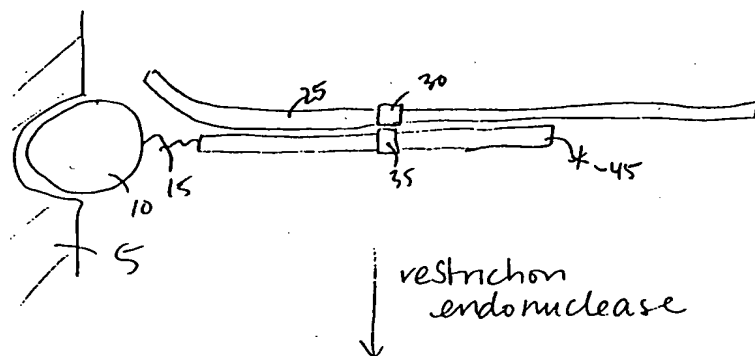
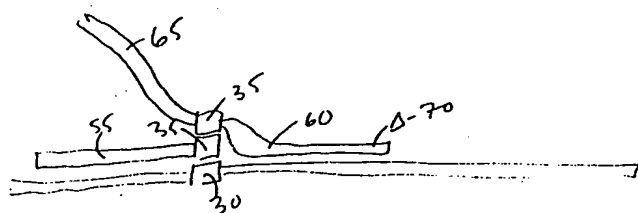
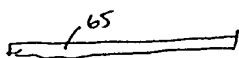


FIGURE 12

FIGURE 13



enzyme



optional removal of
unreacted primers,
optional ligase

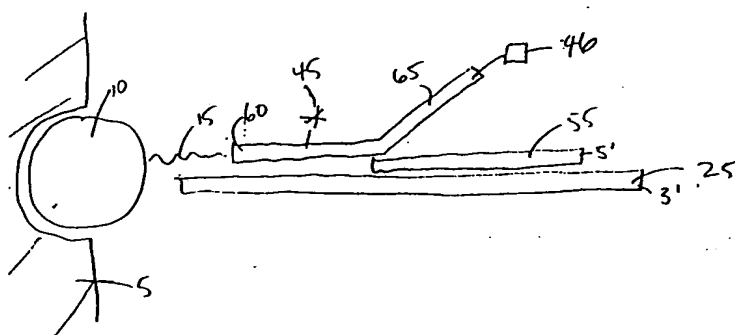
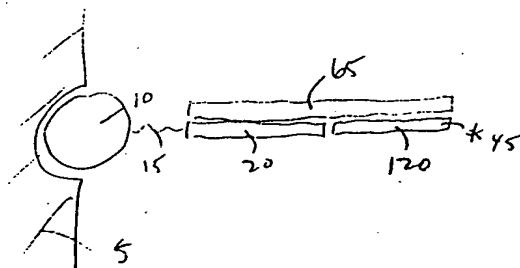
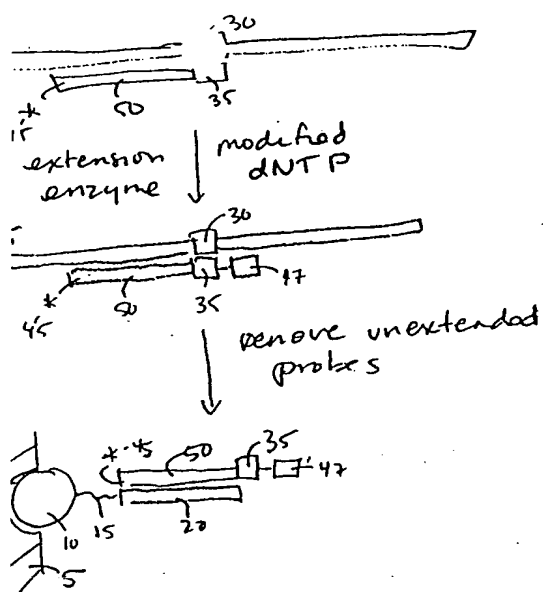
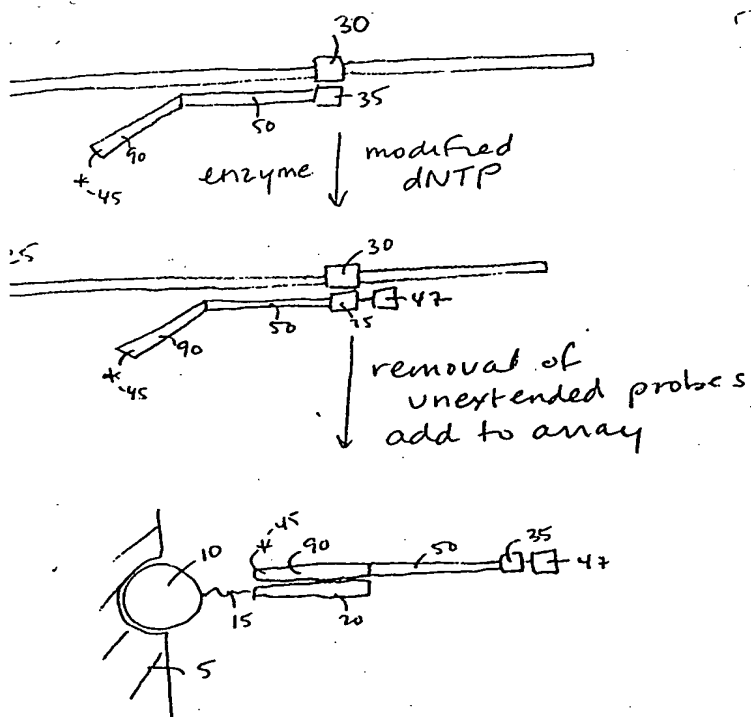


FIGURE 13
(continued)



A



B

FIGURE 14

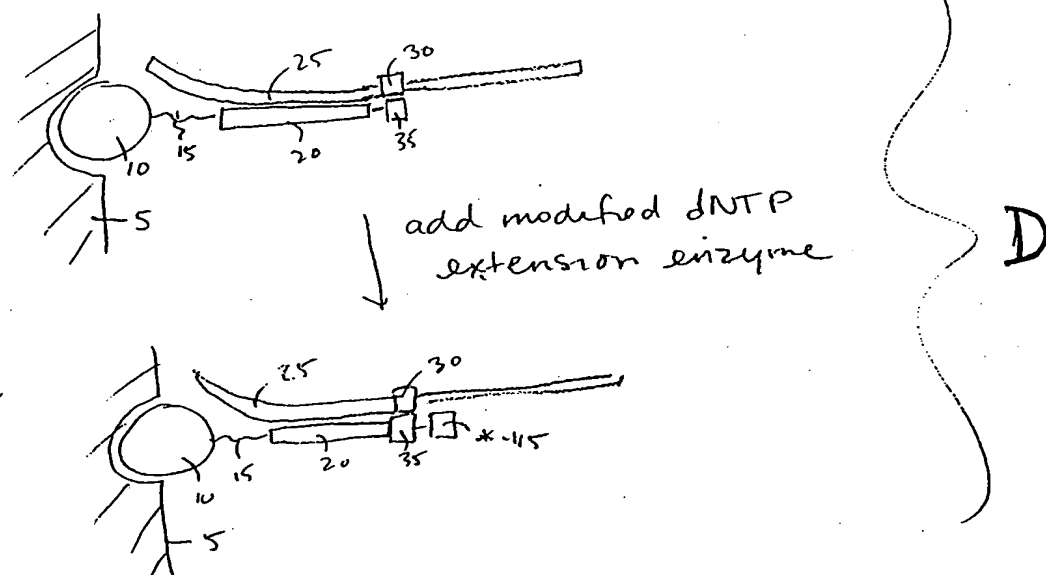
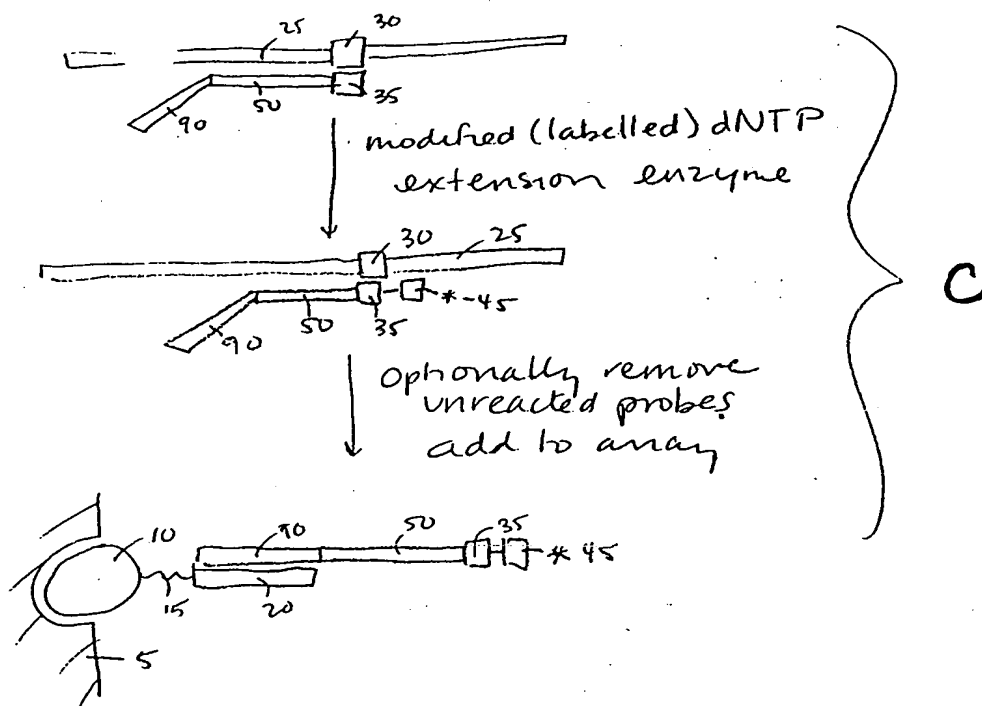


FIGURE 14 (continued)

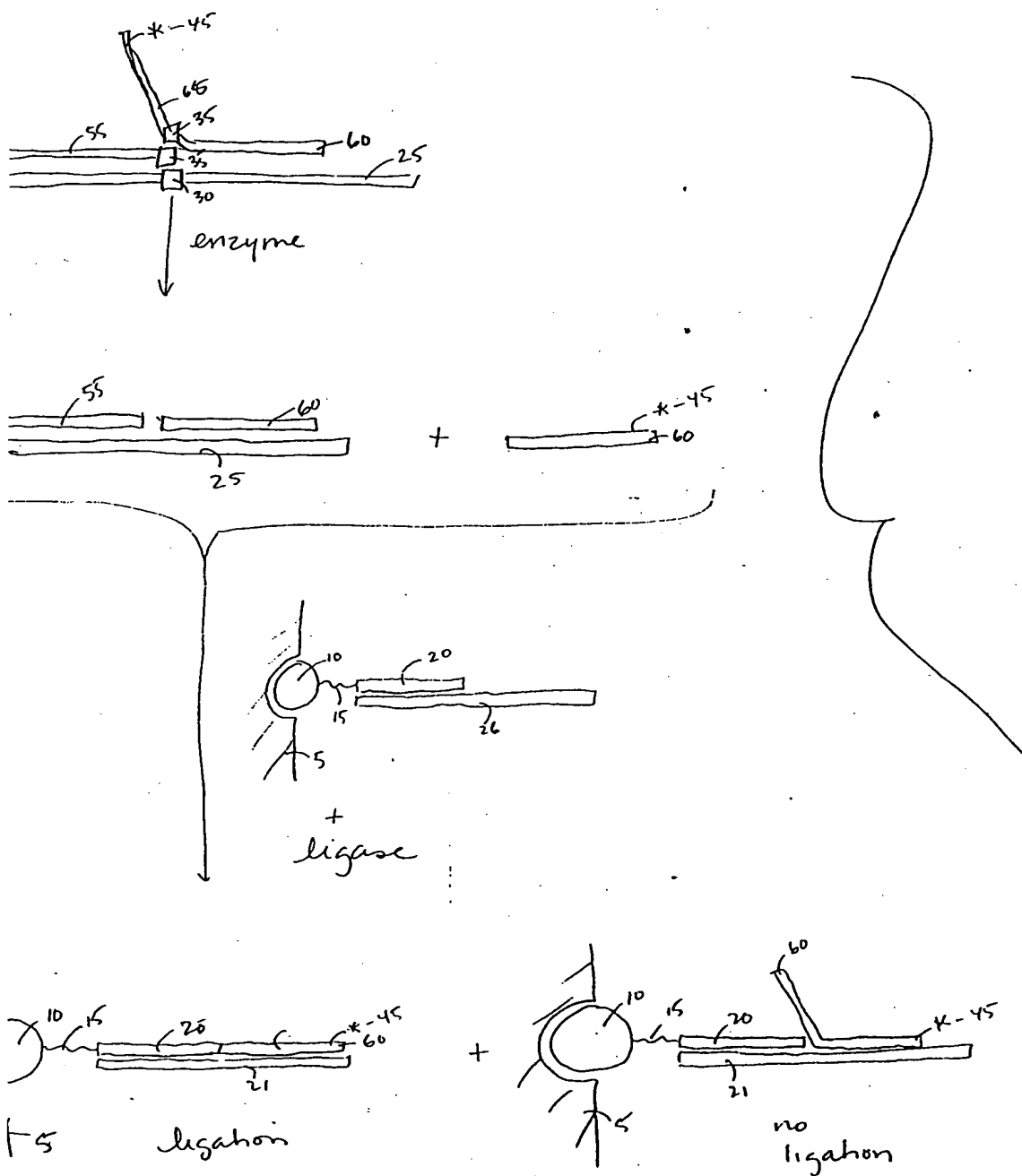
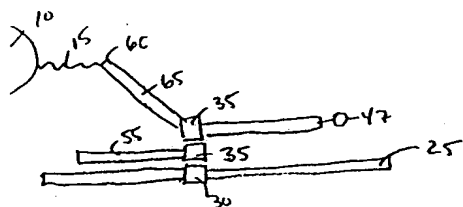
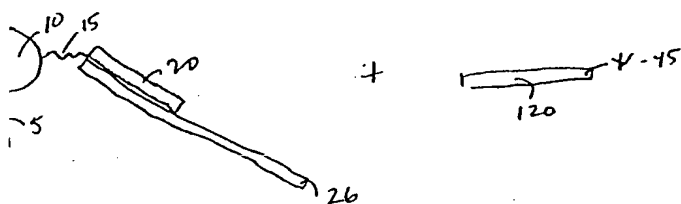


FIGURE 15A



cleavage enzyme
target template



ligation

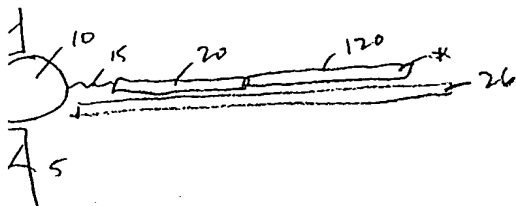


FIGURE 15B

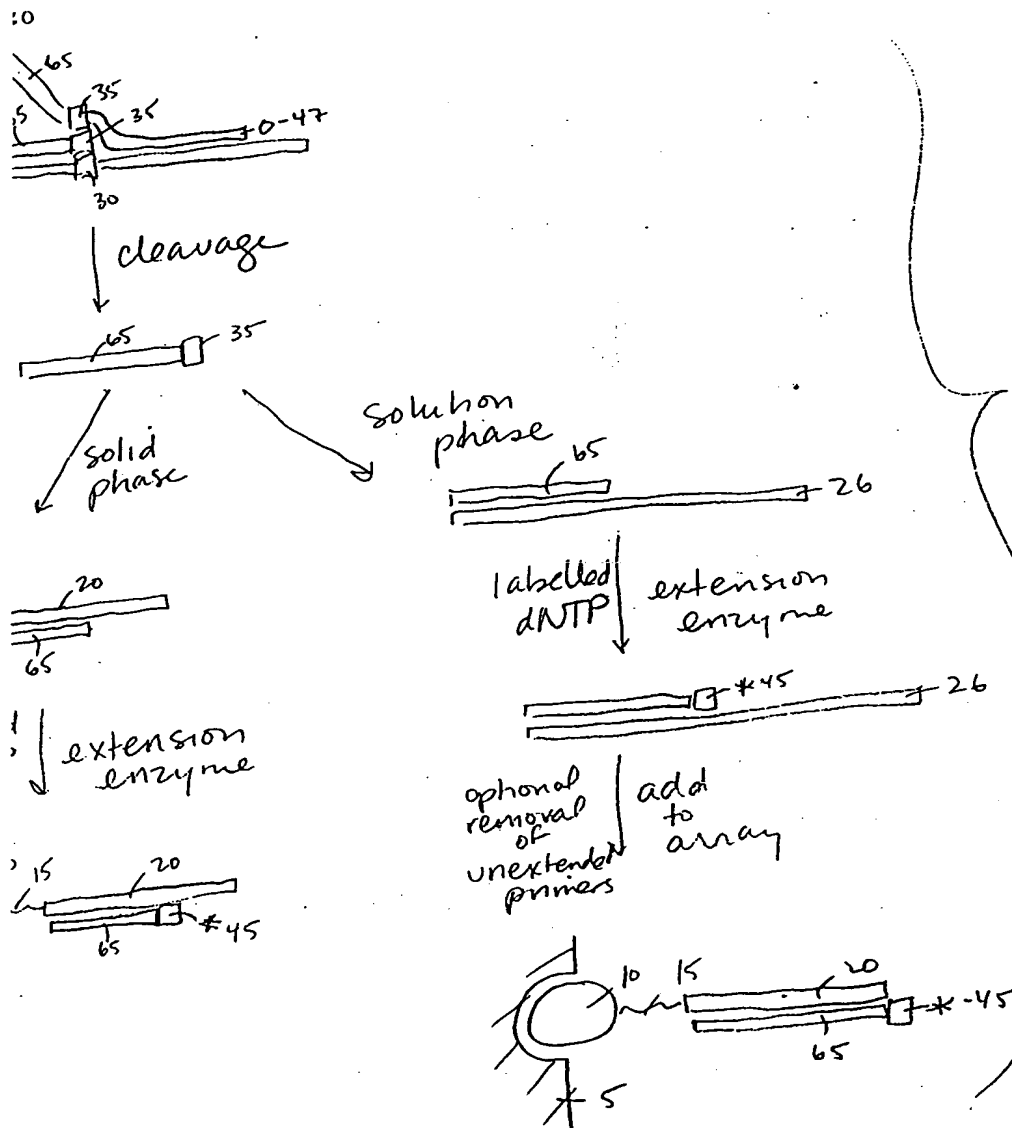


FIGURE 16A

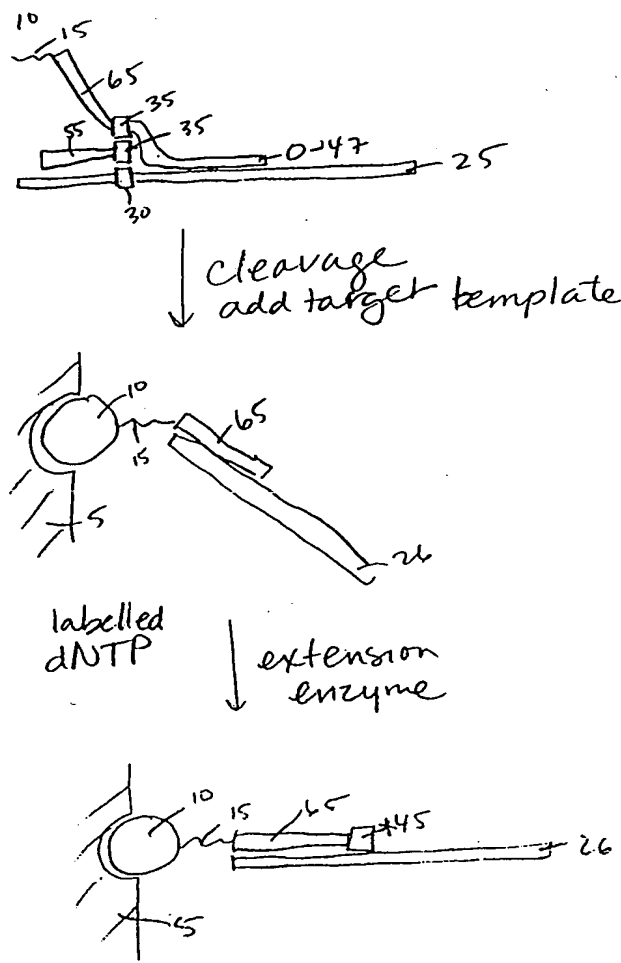
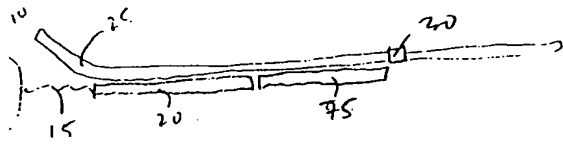
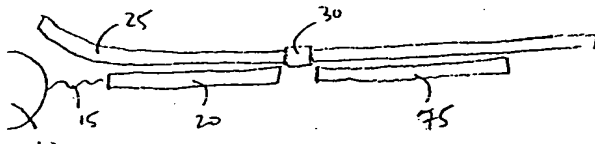


FIGURE 16 B

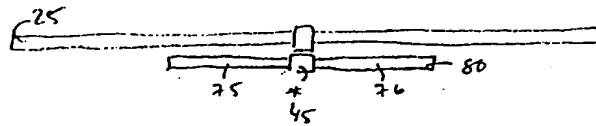
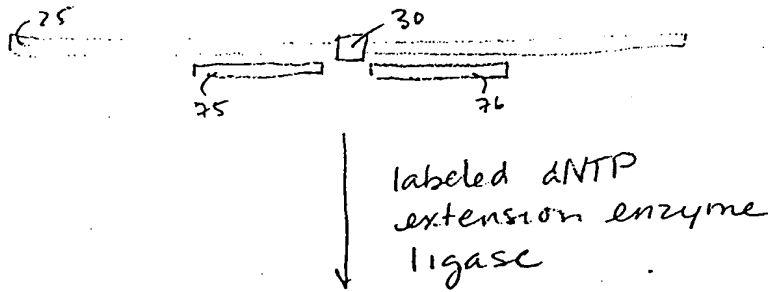


A

FIGURE 17

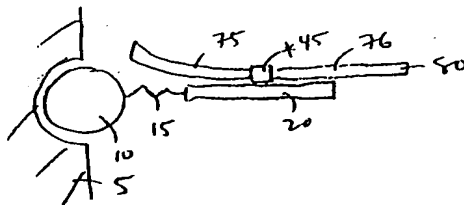


B



optional
removal of
unextended
primers

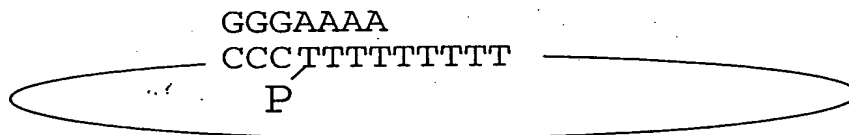
denature
add to array



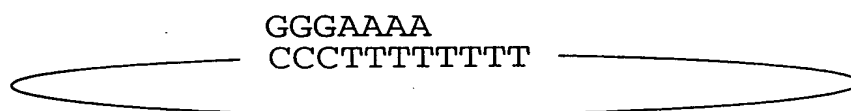


3'CCC ————— TTTTTTTT-P 5'
cDNA

- (1) Circularize cDNA
with guide linker



- (2) Ligate



- (3) Extend as
Rolling circle

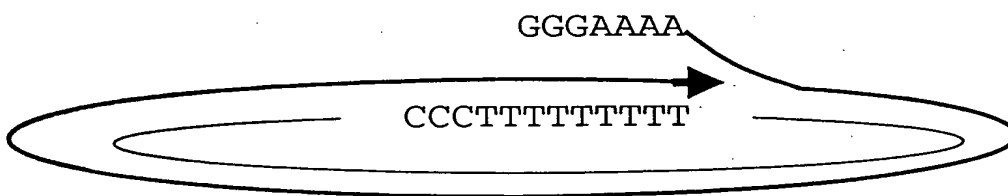
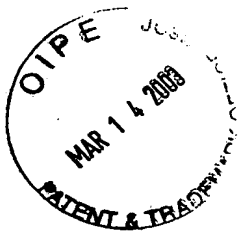


Figure 18



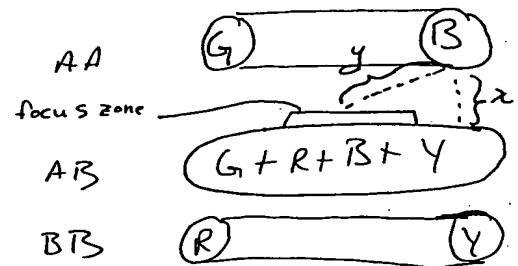
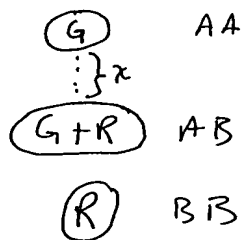
Single Labeled Probe

Genotype	Signal
AA	G/G
AB	G/R
BB	R/R

Multi-Labeled Probe

Genotype	Signal
AA	G ₁ B / G ₁ B
AB	G ₁ B / R ₁ Y
BB	R ₁ Y / R ₁ Y

Signal Range



x = single label distance
 y = multi label distance

Figure 19

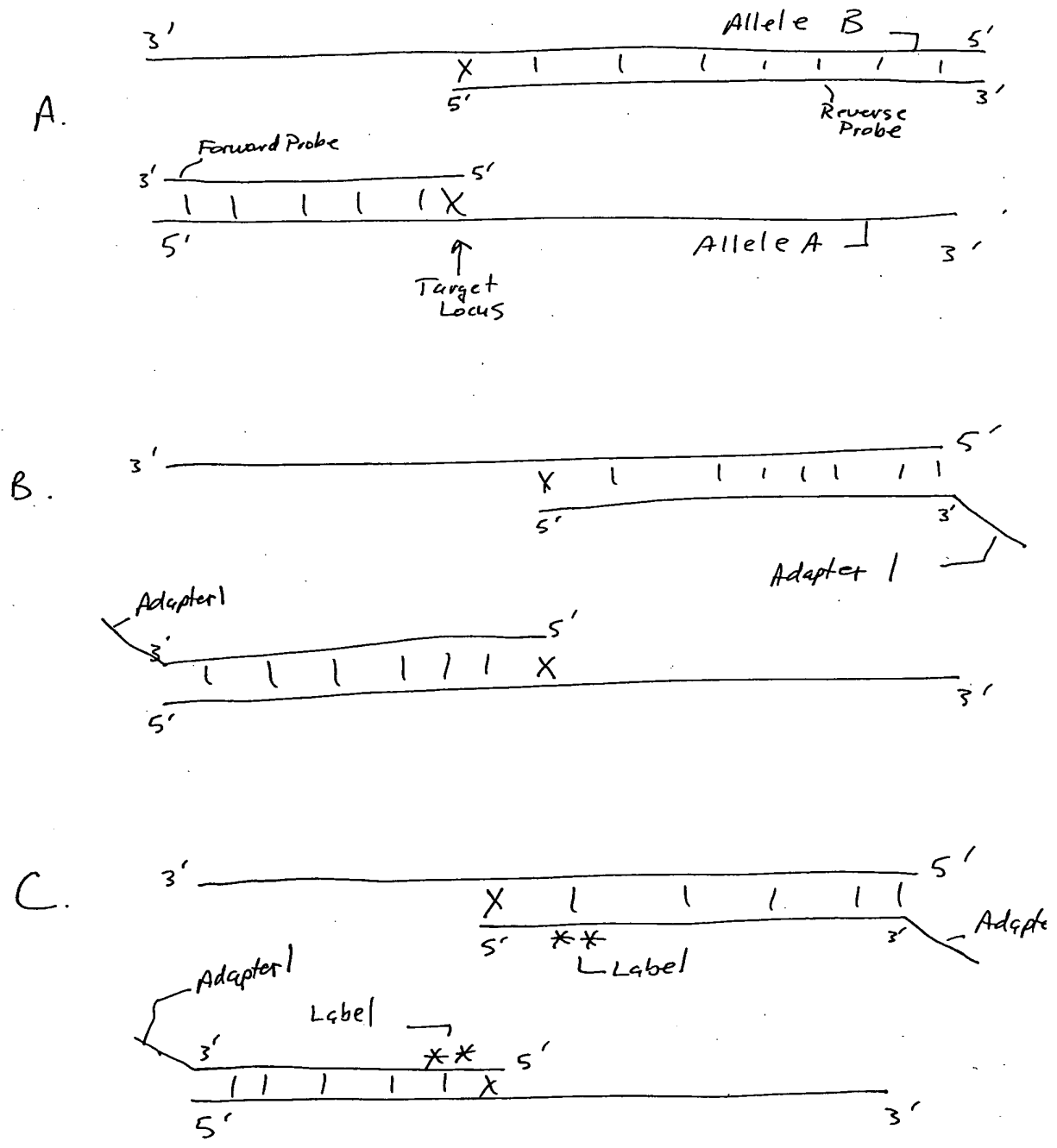


Figure 20

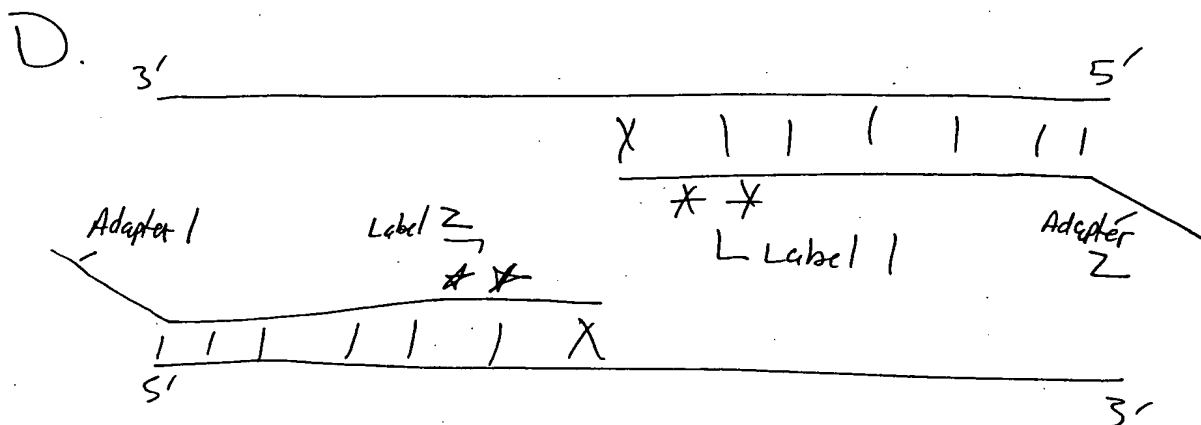


Figure 20 (continued)

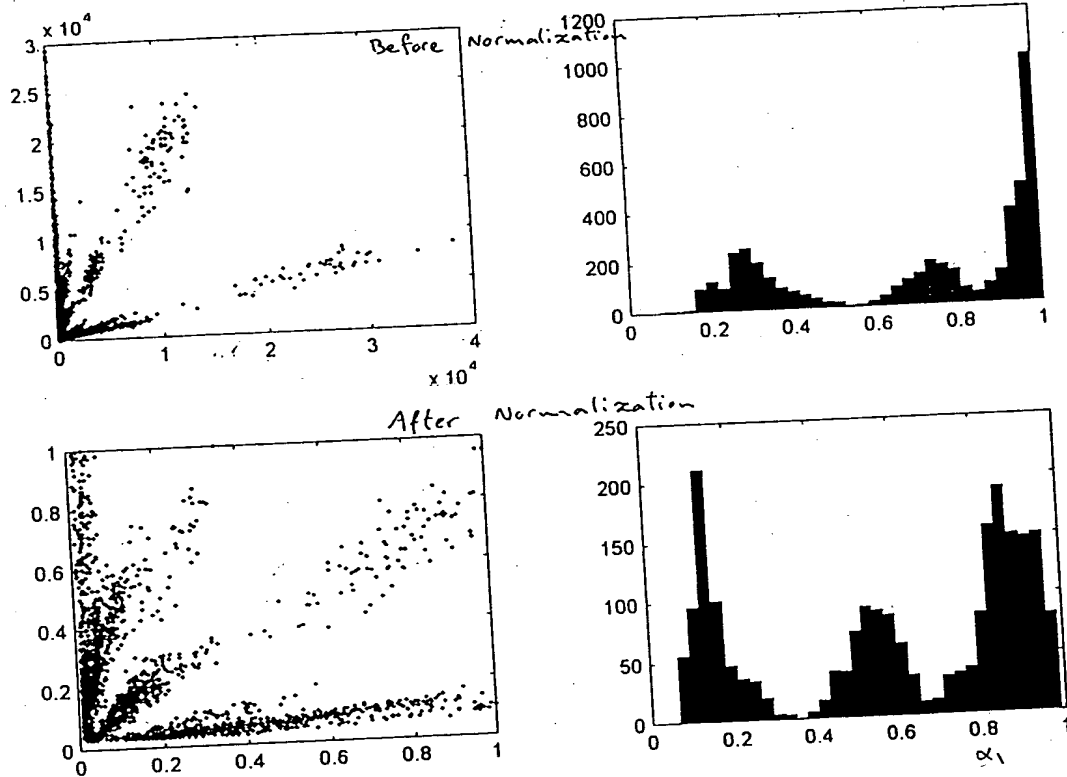


Figure 21

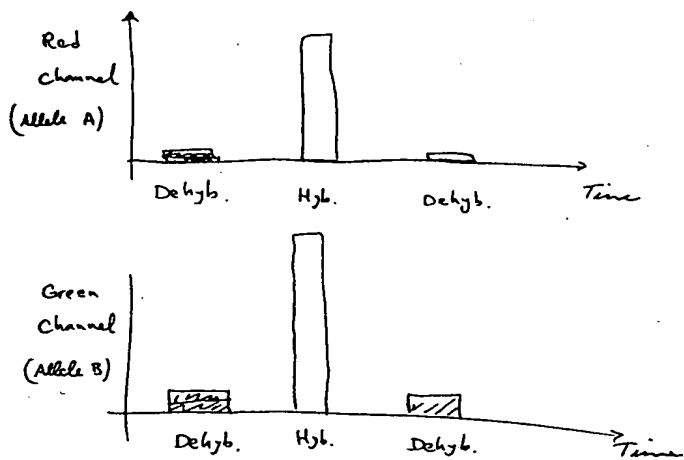


Fig. 21

A

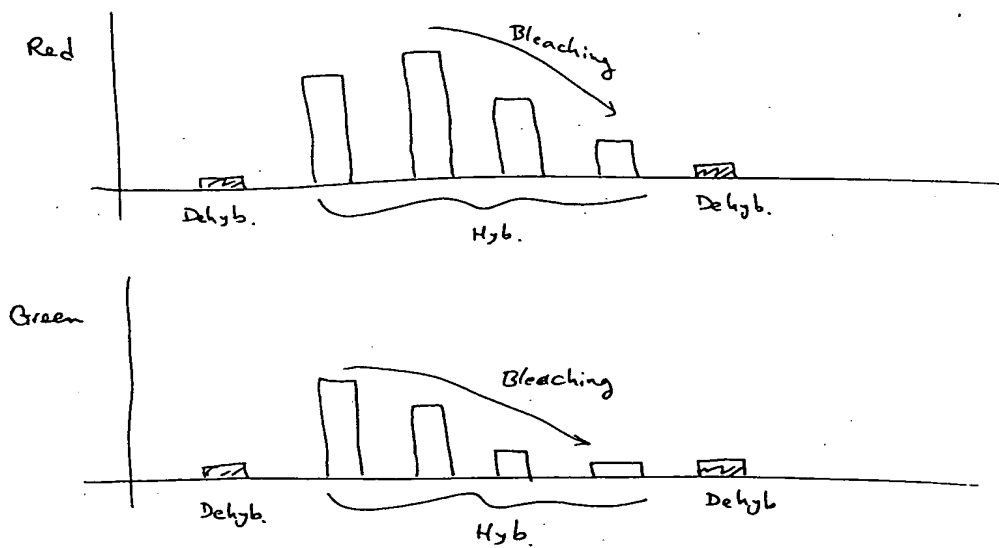


Fig. 22

B

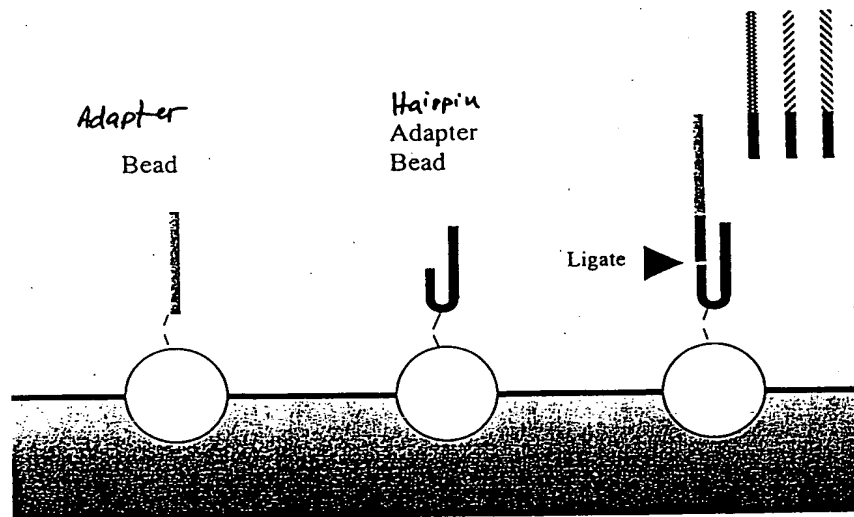
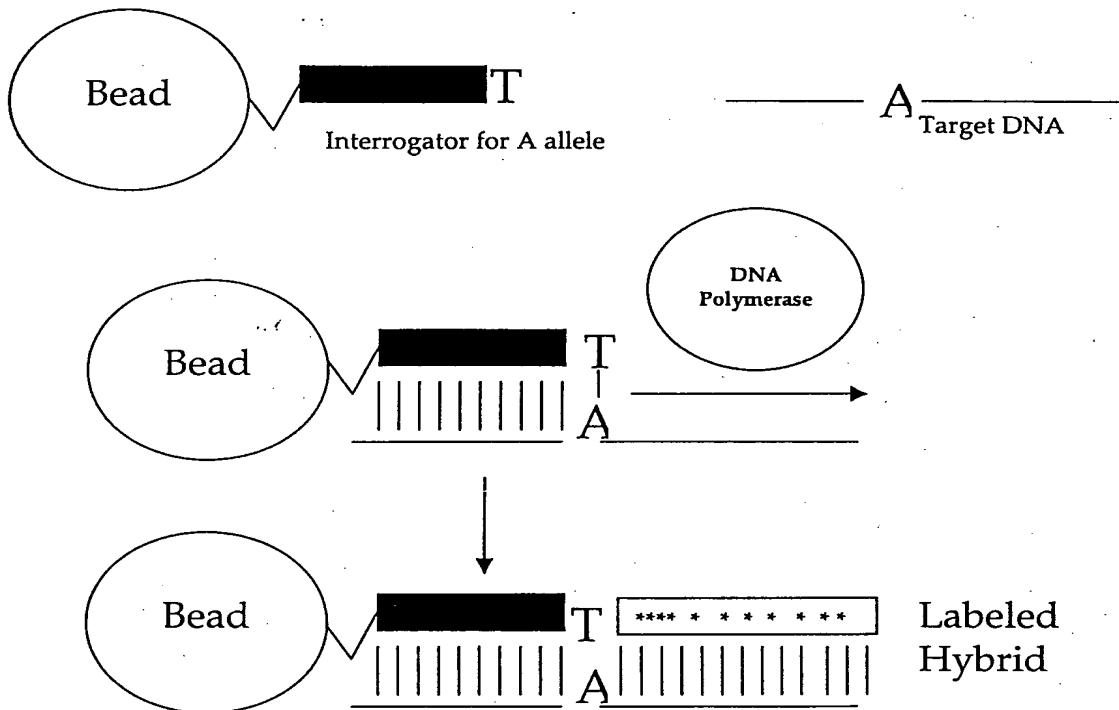


Figure 23

A. Match to SNP allele



B. Mismatch to SNP allele

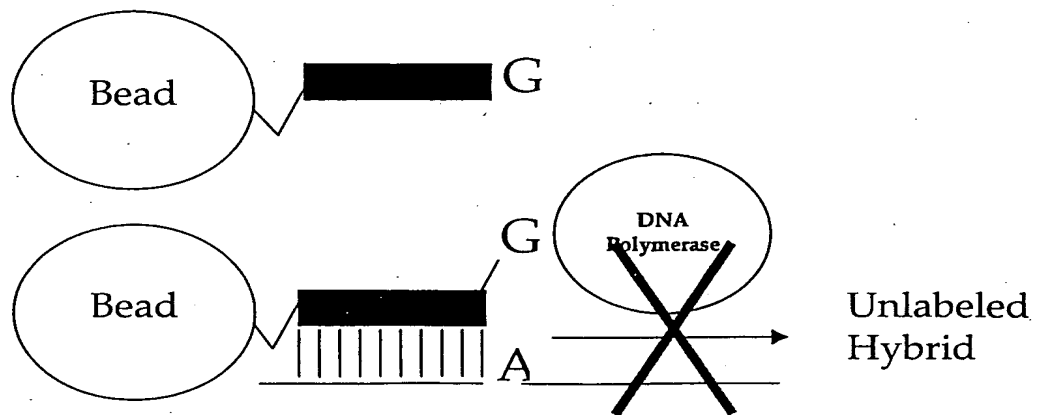
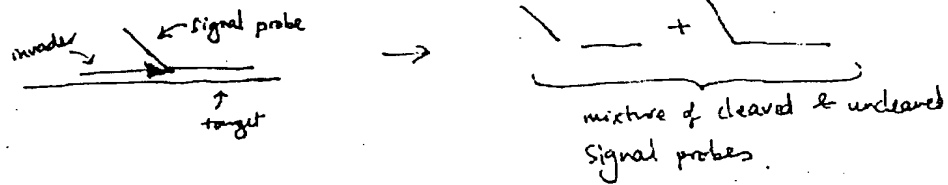


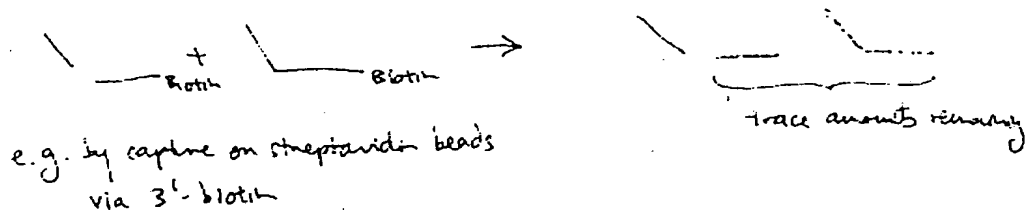
Figure 24

Invader-PCR

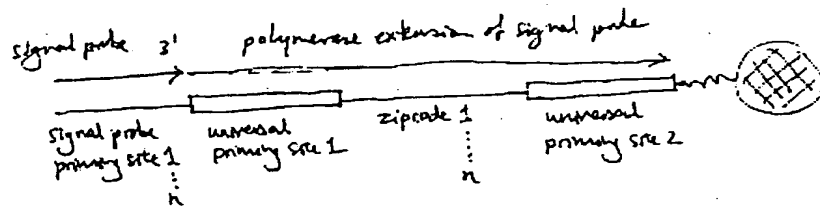
1) Invader reaction



2) Removal of uncleaved signal probes



3) Signal probe primes synthesis of amplicon target strand



4) PCR amplification

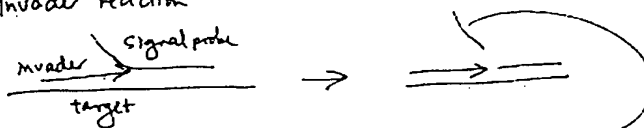
newly synthesized target strands are denatured from template & transferred to PCR reaction (universal primers, dNTPs, tag polymerase) for multiplex PCR. Universal primers are labelled e.g. with protein.

5) Array hybridization - PCR amplicons containing zipcodes are hybridized to array

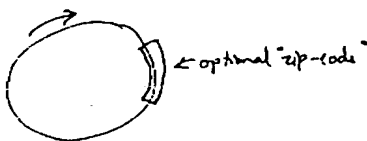
Figure 25

Invader-Rolling Circle

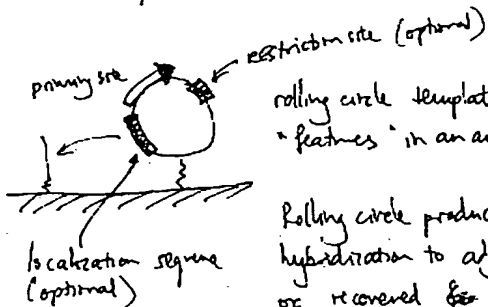
1) Invader reaction



... signal probe acts as primer on "rolling circle" template DNA



Solid-phase version:



rolling circle template is tethered to surface e.g. to localized "features" in an array format, or to beads.

Rolling circle products can be localized e.g. by hybridization to adjacent probes or recovered ~~for~~ in liquid phase for hybridization to a detection array. e.g. by enzymatic cleavage

Figure 26